Communication Protocols and Internet Architectures
Harvard University Summer School
CSCI S-I, Summer 2006

Lectures: Monday and Wednesday nights, 6:00-8:30 p.m.
Room: Harvard Hall 104.
(Please note that videos of the lectures will not be available.)

Sections: Time and location to be announced
Check the course website for current information.

Instructor: Len Evenchik
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Web Site: http://courses.dce.harvard.edu/~cscisi/

Teaching Assistants:
Teaching Assistant (TA) information will be posted on the web site.

Textbooks and Readings:
   Andrew S. Tanenbaum
   Prentice-Hall, 2002
2. Protocol specifications and other material such as online books (which
   require a paid subscription) may also be used this term. Pointers will be
   available on the course web site.

Assignments and Grading:
There will be 4 or 5 homework assignments (approximately 30% of
the grade), a midterm (approximately 30% of the grade) and a
final exam (approximately 40% of the grade.) Note that these
percentages could change before the end of the term.

CLASS SCHEDULE (Subject to Change)

Lecture #1, Monday, June 26, 2006
Topics: Network Models and Network Architectures,
Protocol Design Issues, Transmission and Multiplexing

Lecture #2, Wednesday, June 28, 2006
Topics: Design and Analysis of Link Level Protocols
Protocol Functionality, Layering and Framework (SP3)
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Lecture #3, Monday, July 3, 2006  (Homework #1 due)
Topics: LAN Design, Architectures and Protocols (802.xx)
       LAN Implementation, Ethernet Switching

Lecture #4, Wednesday, July 5, 2006
Topics: Internet Protocol (IP) Design, Internet Addressing
       IETF and the Internet Standards Process

Lecture #5, Monday, July 10, 2006  (Homework #2 due)
Topics: WAN Protocols and Network Architecture
       IP Protocol Implementation, VLANs

Lecture #6, Wednesday, July 12, 2006
Topics: Internetworking and Routing

Lecture #7, Monday, July 17, 2006  (Homework #3 due)
Topics: Transport Layer Protocol Design
       TCP/UDP Analysis and Implementation

Lecture #8, Wednesday, July 19, 2006 (possible date for Midterm Exam)
Topics: Application Protocols: Email, FTP, Telnet and HTTP

Lecture #9, Monday, July 24, 2006  In-class closed book Midterm Exam.
Midterm includes material up through and including lecture #7. (Midterm might be held on July 19th.)

Lecture #10, Wednesday, July 26, 2006
Topics: Network Security (part 1)

Lecture #11, Monday, July 31, 2006
Topics: Network Security (part 2)
       Wireless Networks

Lecture #12, Wednesday, August 2, 2006  (Homework #4 due)
Topics: Broadband Network Design Issues
       Internet Backbone Network Architecture

Lecture #13, Monday, August 7, 2006
Topics: IP Telephony and Internet Video
       H.323 and SIP

Lecture #13, Monday, August 9, 2006  (Homework #5 due)
Topics: Network Management Functions and Protocols
       Network Quality of Service (QoS)

**FINAL EXAM**  August 16th, 6pm – 9pm, location TBD
Three (3) hour closed book final exam.